

Late Cretaceous–Paleogene subduction related lithologies of the North Dinarides included in the South Tisza in Croatia

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It has been generally accepted that the Pannonian Basin (PB) represented a back-arc basin related to the Carpathians. However, the South PB is bounded in the south by the Dinarides which to date have not been taken into consideration in the interpretation of its evolution. Geometrically, the margin parts of the South PB were strongly controlled by contact line between the Dinaride Ophiolite zone and the overlying Late Cretaceous–Paleogene sedimentary-magmatic-metamorphic complex which was genetically related to an ancient north-dipping subduction zone of the Dinaridic–Hellenidic Tethys.

In the North Dinarides, the remnants of the Alpine magmatic arc are represented by:

1. Late Cretaceous–Paleogene trench sequence with flysch signature which is in lower parts interlayered with upper mantle basalt and continental crust rhyolite; the volcanics are characteristically intruded by A-type granite and diabase.

2. Alpine regionally metamorphosed Abukumu-type(?) metamorphic sequence which originated from the surrounding Upper Cretaceous–Paleogene sedimentary and igneous rocks during the Eocene compressional phase; Late Cretaceous–Paleogene microflora was found in metapelites whereas medium-grade rocks have isotope ages of 40–45 Ma.

3. Synkinematic granitoids (46 Ma) are intruded in rocks of the regionally metamorphosed sequence.

Outcrops of the same Alpine rocks are found in the Tisza megaunit and the best ones are in Mt. Požeška Gora, where rocks of the Late Cretaceous–Paleogene complex are thrust over Ottnangian–Karpatian to Pannonian sediments. The Late Cretaceous–Paleogene rocks were drilled in many oil-wells as indicated by about 10 K–Ar ages; Alpine granitoids, rhyolites and basalts are common in the Drava Depression. This correlation and available field and geophysical prospecting data indicate that the Late Cretaceous–Paleogene fragments of the South PB were thrust from the North Dinarides. This thrusting took place in a post-Pannonian time when the northernmost Dinarides were thrust over the

southern parts of the Tisza megaunit. Their contact line is not sharp because the Tisza thrusts under low angle bene-

ath the Dinarides and, thus, is incorporated in their deep crustal structure.